INDEX

A

ABENAVOLI, A., L. FORTI, AND A. MALGAROLI, Mechanisms of spontaneous miniature activity at CA3-CA1 synapses: evidence for a divergence from a random Poisson process, 184
Actin, 202, 203
Action potential, 135
Adenylate cyclase, 197
Adhesion of a viral envelope protein to a non-self binding domain of the aggregation factor in the marine sponge *Microciona prolifera*, 209
Adhesive proteoglycans, 192
Aggregation factor, 192, 209
Aggression, 265
Aiptasia, 76
Allometric scaling in small colonies of the scleractinian coral *Siderastrea siderea* (Ellis and Solander), 21
Allometry, 21
cAMP, 197
Amphibian, 187
An inducer of molluscan metamorphosis transforms activity patterns in a larval nervous system, 241
Annual Report of the Marine Biological Laboratory, v. 199 (1), R1
Anuran, 187
Apical organ, 305
Aplysia, 305
Arbacia eggs, 212, 213
ARMSTRONG, MARGARET T., see Rengasamy Asokan, 190
ARMSTRONG, PETER B., AND RENGASAMY ASOKAN, A Ca^{+2}-independent cytolytic system from the blood of the marine snail *Busycon canaliculum*, 194
ARMSTRONG, PETER B., see John M. Harrington, 189; Rengasamy Asokan, 190
ASOKAN, RENGASAMY, MARGARET T. ARMSTRONG, AND PETER B. ARMSTRONG, Association of α_2-macroglobulin with the coagulin clot in the American horseshoe crab, *Limulus polyphemus:* a potential role in stabilization from proteolysis, 190
ASOKAN, RENGASAMY, see Peter B. Armstrong, 194
Association of α_2-macroglobulin with the coagulin clot in the American horseshoe crab, *Limulus polyphemus:* a potential role in stabilization from proteolysis, 190
Asteroidea, 298
ATHERTON, JILLIAN L., MATTHEW A. KRUTKY, JAMES M. HITT, FREDERICK A. DODGE, AND ROBERT B. BARLOW, Optic nerve responses of *Limulus* in its natural habitat at night, 176
ATHERTON, JILLIAN L., see Matthew A. Krutky, 178
Axonal transport, 202, 203
Axoplasm, 203

B

BAGHDASARIAN, GAREN, AND LEONARD MUSCATINE, Preferential expulsion of dividing algal cells as a mechanism for regulating algal-cnidarian symbiosis, 278
BAKER, SHIRLEY M., JEFFREY S. LEVINTON, AND J. EVAN WARD, Particle transport in the zebra mussel, *Dreissena polymorpha* (Pallas), 116
BARLOW, ROBERT B., see James M. Hitt, 171; Jillian L. Atherton, 176; Matthew A. Krutky, 178
BARNES, DAVID K. A., AND MATTHEW H. DICK, Overgrowth competition between clades: implications for interpretation of the fossil record and overgrowth indices, 85
BENTLEY, M. G., see G. J. Watson, 50
BEZANILLA, FRANCISCO, see Joshua J. C. Rosenthal, 135
Biogeochemistry, 218
Biogeography, 126
Biogeography of two species of *Symbiodinium* (Freudenthal) inhabiting the intertidal sea anemone *Anthopleura elegantissima* (Brandt), 126
Biosynthesis, 192
Birefringence, 212
Bivalve, 29, 116, 144, 199
Blood clotting, 190
Boatwhistle, 173
BOLTON, TOBY F., FLORENCE I. M. THOMAS, AND CELERE N. LEONARD, Maternal energy investment in eggs and jelly coats surrounding eggs of the echinoid *Arbacia punctulata*, 1
Boron, 221
BROTHERS, CHRISTINE, ERNEST MARKS III, AND ROXANNA SMOLOWITZ, Conditions affecting the growth and zoosporulation of the protistan parasite QPX in culture, 200
BROWN, JEREMIAH, see Phillip Stafford, 203
BRUZZONE, ROBERTO, see Thomas H. White, 165
Bryozoan, 85
BUCKLAND-NICKS, JOHN, AND ALAN N. HODGSON, Fertilization in *Callochiton castaneus* (Mollusca), 59
BURGER, MAX M., see William J. Kuhns, 192; Roger MacKenzie, 209
BURGOS, MARIO H., MAKOTO GODA, AND SHINYA INOUÉ, Fertilization-induced changes in the fine structure of stratified *Arbacia* eggs. II. Observations with electron microscopy , 213
BURGOS, MARIO H., see Makoto Goda, 212
BYRNE, R. A., see T. H. Dietz, 14

C

Ca^{2+}, 212
A Ca^{+2}-independent cytolytic system from the blood of the marine snail *Busycon canaliculum*, 194
Cable properties, 135
Calcium imaging, 162
Camouflage, 6
Carotenoid, 223
Cassiopeia, 76
Cataract, 187
Catecholamines, 305
Cell
  contact, 287
  motility, 202, 203
  movement, 287
  proliferating, 199
Cellular basis of gastrulation in the sand dollar *Scaphechinus mirabilis*, 287
Centrifugation, 212, 213
Centrifuge polarizing microscope, 212
CHANG, F., see P. T. Tran, 205
Channel, 165
Cherax destructor, 251
CHERRY, J. S., see T. H. Dietz, 14
CHIKARMANE, HEMANT M., ALAN M. KUZIRIAN, ROBBIN KOZLOWSKI, MARK KUZIRIAN, AND TONY LEE, Population genetic structure of the goosefish, *Lophius americanus*, 227
CHILD, FRANK M., see David A. Epstein, 182
Chimerism, 231
Chlorophyll, 223
Circadian rhythms in the receptive fields of the *Limulus* lateral eye, 171
Clades, 85
Cladophora vagabunda, 223
CLAESSENS, LUC, see Ryan Kirkby, 218

Cleavage, 207
Cnidaria, 68, 278
COHEN, LAWRENCE B., see Matt Wachowiak, 162
Colony, 231
Conditions affecting the growth and zoosporulation of the protistan parasite QPX in culture, 200
Conduction velocity, 135
Connexin, 165
Copepod, 95
Coral, 21, 68
CRAWFORD, KAREN, The role of microtubules during blastodisc formation of the squid *Loligo pealei*, 207
Crayfish, 251
A critical approach to the definition of Darwinian units of selection, 231
CROLL, ROGER P., see Amanda J. G. Dickinson, 305
CROMARTY, S. I., J. MELLO, AND G. KASS-SIMON, Molt-related and size-dependent differences in the escape response and post-threat behavior of the American lobster, *Homarus americanus*, 265
Crustacea, 265
Cytoplasmic streaming, 207
Cytoskeleton, 144, 202, 203

D

DACEY, JOHN W. H., see Richard W. Hill, 108
DAVIS, THEODORE M., see Inigo Novales Flamarique, 187
Denaturing gradient gel electrophoresis, 126
DENAULT, MICHELLE, ERICA STIEVE, AND IVAN VALIELA, Effects of nitrogen load and irradiance on photosynthetic pigment concentrations in *Cladophora vagabunda* and *Gracilaria tikvahiae* in estuaries of Waquoit Bay, 223
Denitrification, 221
Descending octaval nucleus, 173
Detritus, 225
Development, 68, 195
Development of a penis from the vestigial penis in the female apple snail, *Pomacea canaliculata*, 316
Development of embryonic cells containing serotonin, catecholamines, and FMFRamide-related peptides in *Aplysia californica*, 305
Development of self-referencing oxygen microsensor and its application to single pancreatic HIT cells; effects of adenylate cyclase activator forskolin on oxygen consumption, 197
DICK, MATTHEW H., see David K. Barnes, 85
DICKINSON, AMANDA J. G., ROGER P. CROLL, AND ELENA E. VORONEZHSKAYA, Development of embryonic cells containing serotonin, catecholamines, and FMFRamide-related peptides in *Aplysia californica*, 305
DIETZ, T. H., A. S. UDOETOK, J. S. CHERRY, H. SILVERMAN, AND R. A. BRYNE, Kidney function and sulfate uptake and loss in the freshwater bivalve *Toxolasma texasensis*, 14
Differences in properties of salt marsh sediment between hayed and reference sites, 223
Differentiation, 41
Dimethylsulfoniopropionate, 108
Dimethylsulfoniopropionate in giant clams (Tridacnidae), 108
Disease, 199
Do the properties of underwater lighting influence the visually guided behavior of *Limulus*?, 178
DODGE, FREDERICK A., see James M. Hitt, 171; Jillian L. Atherton, 176; Matthew A. Krutky, 178
DOYE, V., see P. T. Tran, 205
Dreissena, 116, 144
Drosophila, 170

E

Early development of zooxanthella-containing eggs of the corals *Pocillopora verrucosa* and *P. eydouxi* with special reference to the distribution of zooxanthellae, 68
Echinodermata, 298
Echinoid, 1
EDDS-WALTON, PEGGY L., see Richard R. Fay, 173
EDMUNDS, PETER J., see Steven V. Vollmer, 21
EDWARD, AHSER, see Richard W. Hill, 108
Effects of food concentration and availability on the incidence of cloning in planktotrophic larvae of the sea star *Pisaster ochraceus*, 298
Effects of myosin-II antibody on actin-dependent vesicle transport in extracts of clam oocytes, 202
Effects of nitrogen load and irradiance on photosynthetic pigment concentrations in *Cladophora vagabunda* and *Gracilaria tikvahiae* in estuaries of Waquoit Bay, 223
Electron microscopy, 213
Embryo, 305
Embryogenesis, 29
Endocrine disruption, 316
Endoplasmic reticulum, 212, 213
Endoscopy, 116
ENGLER, JOHN, see Robert M. Gould, 215
Enzymatic biosynthesis of N-linked glycan by the marine sponge *Microciona prolifera*, 192
Enzyme activity, 100
EPSTEIN, DAVID A., HERMAN T. EPSTEIN, FRANK M. CHILD, AND ALAN M. KUZIRIAN, Memory consolidation in *Hermissenda crassicornis*, 182
EPSTEIN, HERMAN T., see David A. Epstein, 182
ER transport, 202, 203
Escape response, 265
Eye, 171, 176
Eyeshine, 6

F

Factors influencing spawning and pairing in the scale worm *Harmothoe imbricata*, 50
FALK, CHUN X., see Matt Wachowiak, 162
FARMER, MARK A., see Timothy S. Wakefield, 76
Fate of anthropogenic nitrogen in a nearshore Cape Cod aquifer, 221
FAY, RICHARD R., AND PEGGY L. EDDS-WALTON, Frequency response of auditory brainstem units in toadfish *Opsanus tau*, 173
FERNANDEZ-BUSQUETS, XAVIER, see William J. Kuhns, 192
Fertilization, 59, 144, 212, 213
Fertilization in *Callochiton castaneus* (Mollusca), 59
Fertilization-induced changes in the fine structure of stratified *Arbacia* eggs. I. Observations on live cells with the centrifuge polarizing microscope, 212
Fertilization-induced changes in the fine structure of stratified *Arbacia* eggs. II. Observations with electron microscopy, 213
FINLEY, LUKE, AND DAVID MACMILLAN, The structure and growth of the statocyst in the Australian crayfish *Cherax destructor*, 251
Fish, startle response, 180
FISHER, CHARLES R., see Stéphane Hourdez, 95
FMRFamide, 305
Forskolin, 197
FORTI, L., see A. Abenavoli, 184
Fouling organism, 189
Freeze substitution, 76
Frequency response of auditory brainstem units in toadfish *Opsanus tau*, 173
FREUND, CONCETTA M., see Robert M. Gould, 215
Frog Lim-1-like protein is expressed predominantly in the nervous tissue, gonads, and early embryos of the bivalve mollusc *Mytilus galloprovincialis*, 29

G

GALLO, MICHAEL A., see Diane E. Heck, 195
Gastropod, 241
Gastrulation, 287
GATEN, E., see M. L. Johnson, 6
Gating current, 164
GAUDRON, S. M., see G. J. Watson, 50
Gene, 231
  activity, 100
  expression, 215

Gene expression and enzyme activities of the sodium pump during sea urchin development: implications for indices of physiological state, 100
Giant axon, squid, 135
GIBLIN, ANNE, see Adena Greenbaum, 223
GIBSON, DANIEL G., see Rhea Hanselmann, 199
GIBSON, GLENYS D., AND JENNIFER M. L. HARVEY, Morphogenesis during asexual reproduction in *Pygospio elegans* Claparede (Annelida, Polychaeta), 41
GODA, MAKOTO, MARIO H. BURGOS, AND SHINYA INOUÉ, Fertilization-induced changes in the fine structure of stratified *Arbacia* eggs. I. Observations on live cells with the centrifuge polarizing microscope, 212
GODA, MAKOTO, see Mario H. Burgos, 213
Gonad, 29
GOULD, ROBERT M., CONCETTA M. FREUND, JOHN ENGLER, AND HILARY G. MORRISON, Optimization of homogenization conditions used to isolate mRNAs in processes of myelinating oligodendrocytes, 215
Gracilaria tikvahiae, 223
GREENBAUM, ADENA, AND ANNE GIBLIN, Differences in properties of salt marsh sediment between hayed and reference sites, 223
Groundwater, 221
Growth, 251

H

HADFIELD, MICHAEL G., see Esther M. Leise, 241
HALE, MELINA E., Startle responses of fish without Mauthner neurons: escape behavior of the lumpfish (*Cyclopterus lumpus*), 180
HAMMAR, KATHERINE, see Sung-Kwong Jung, 197
HANSELMANN, RHEA, ROXANNA SMOLOWITZ, AND DANIEL G. GIBSON, Identification of proliferating cells in hard clams, 199
Hard clam, 199
Harmothoe imbricata, 50
HARRINGTON, JOHN M., AND PETER B. ARMSTRONG, Initial characterization of a potential anti-fouling system in the American horseshoe crab, *Limulus polyphemus*, 189
HARVEY, JENNIFER M. L., see Glenys D. Gibson, 41
Haying, 225
Hearing, 173
Heart rate, 257
Heavy water, 164
Heavy water (D_2O) alters the sodium channel gating current in squid giant axons, 164
HECK, DIANE E., LYDIA LOUIS, MICHAEL A. GALLO, AND JEFFREY D. LASKIN, Modulation of the development of plutei by nitric oxide in the sea urchin *Arbacia punctulata*, 195
Hemocyte proliferation, 199
Hemoglobin, 95
  functional properties, 95
  structure, 95
Hemoglobin from a deep-sea hydrothermal-vent copepod, 95
Hemolysis, 194
Hermissenda, 182
HERRING, P. J., see M. L. Johnson, 6
HIDAKA, M., see M. Hirose, 68
HILL, RICHARD W., JOHN W. H. DACEY, AND AHSER EDWARD, Dimethylsulfoniopropionate in giant clams (Tridacnidae), 108
Hippocampus, 184
HIROSE, M., R. A. KINZIE III, AND M. HIDAKA, Early development of zooxanthella-containing eggs of the corals *Pocillopora verrucosa* and *P. eydouxi* with special reference to the distribution of zooxanthellae, 68
HITT, JAMES M., see Jillian L. Atherton, 176
HITT, JAMES M., FREDERICK A. DODGE, EHUD KAPLAN, AND ROBERT B. BARLOW, Circadian rhythms in the receptive fields of the *Limulus* lateral eye, 171
HODGSON, ALAN N., see John Buckland-Nicks, 59
Homarus, 257, 265
HOPKINSON, CHARLES, JR., see Ryan Kirkby, 218; Anne Perring, 219
Horizontal cell, 168
HOURDEZ, STÉPHANE, JASON LAMONTAGNE, PAT PETERSON, ROY E. WEBER, AND CHARLES R. FISHER, Hemoglobin from a deep-sea hydrothermal-vent copepod, 95
Human immunodeficiency virus, 209
Hydrogen ion fluxes from isolated retinal horizontal cells, modulation by glutamate, 168

I

Identification of proliferating cells in hard clams, 199
Immunity, innate, 189, 190, 194
Imposex, 316
Individual, 231
Initial characterization of a potential anti-fouling system in the American horseshoe crab, *Limulus polyphemus*, 189
INOUÉ, SHINYA, see P. T. Tran, 205; Makoto Goda, 212; Mario H. Burgos, 213
Interaction of actin- and microtubule-based motors in squid axoplasm probed with antibodies to myosin V and kinesis, 203
Intercellular communication, 165
Intrinsic membrane properties of laryngeal motoneurons that control sexually differentiated vocal behavior in African clawed frogs, *Xenopus leavis*, 175
Ipswich, 218
Irradiance, 223

J

Jelly coat, 1
JOHNSON, J. L., P. M. J. SHELTON, E. GATEN, AND P. J. HERRING, Relationship of dorsoventral eyeshine distributions to habitat depth and animal size in mesopelagic decapods, 6
JUNG, SUNG-KWON, KATHERINE HAMMAR, AND PETER J. S. SMITH, Development of self-referencing oxygen microsensor and its application to single pancreatic HIT cells; effects of adenylate cyclase activator forskolin on oxygen consumption, 197
JURY, STEVEN H., AND WINSOR H. WATSON III, Thermosensitivity of the lobster, *Homarus americanus*, as determined by cardiac assay, 257

K

KACZMAREK, LEONARD K., see Ayako Yamaguchi, 175
KAPLAN, EHUD, see James M. Hitt, 171
KASS-SIMON, G., see S. I. Cromarty, 265
KELLEY, DARCY B., see Ayako Yamaguchi, 175
KEMPF, STEPHEN C., see Timothy S. Wakefield, 76
Kidney function, 14
Kidney function and sulfate uptake and loss in the freshwater bivalve *Toxolasma texasensis*, 14
Kinesin, 203
KINZIE, R. A., III, see M. Hirose, 68
KIRKBY, RYAN, LUC CLAESSENS, CHARLES HOPKINSON, JR., EDWARD RASTETTER, AND JOSEPH VALLINO, Modeling the effects of land-use changes on nitrogen biogeochemistry in the Ipswich watershed, Massachusetts, 218
KOMINAMI, TETSUYA, AND HIROMI TAKATA, Cellular basis of gastrulation in the sand dollar *Scaphechinus mirabilis*, 287
KOZLOWSKI, ROBBIN, see Hemant M. Chikarmane, 227
KROEGER, KEVIN D., see Elizabeth J. Westgate, 221
KRUTKY, MATTHEW A., JILLIAN L. ATHERTON, SPENCE SMITH, FREDERICK A. DODGE, AND ROBERT B. BARLOW, Do the properties of underwater lighting influence the visually guided behavior of *Limulus?*, 178
KRUTKY, MATTHEW A., see Jillian L. Atherton, 176
KUHNS, WILLIAM J., MAX M. BURGER, MOHAN SARKER, XAVIER FERNANDEZ-BUSQUETS, AND TRACY SIMPSON, Enzymatic biosynthesis of N-linked glycan by the marine sponge *Microciona prolifera*, 192
KUHNS, WILLIAM J., see Roger MacKenzie, 209
KUZIRIAN, ALAN M., see David A. Epstein, 182; Hemant M. Chikarmane, 227
KUZIRIAN, MARK, see Hemant M. Chikarmane, 227

L

Labyrinthomorpha, 200
LaJeunesse, R. C., and R. K. Trench, Biogeography of two species of *Symbiodinium* (Freudenthal) inhabiting the intertidal sea anemone *Anthopleura elegantissima* (Brandt), 126
Lamontagne, Jason, see Stéphane Hourdez, 95
Landowne, David, Heavy water (D_2O) alters the sodium channel gating current in squid giant axons, 164
Langford, F. M., see G. J. Watson, 50
Langford, George M., see Leslie Sandberg, 202; Phillip Stafford, 203
Laskin, Jeffrey D., see Diane E. Heck, 195
Learning, human, 182
Lee, Tony, see Hemant M. Chikarmane, 227
Leise, Esther M., and Michael G. Hadfield, An inducer of molluscan metamorphosis transforms activity patterns in a larval nervous system, 241
Leonard, Celere N., see Toby F. Bolton, 1
Leong, Patrick K. K., see Adam G. Marsh, 100
Levinton, Jeffrey S., see Shirley M. Baker, 116
Lim-1 protein, 29
Limulus, 171, 176, 178, 189, 190
Lobster, 257, 265
Loligo, 135
Lophius americanus, 227
Louis, Lydia, see Diane E. Heck, 195
Lynn, J. W., see M. J. Misamore, 144

M

MacKenzie, Roger, David Newman, Max M. Burger, Rene Roy, and William J. Kuhns, Adhesion of a viral envelope protein to a non-self-binding domain of the aggregation factor in the marine sponge *Microciona prolifera*, 209
Macmillan, David, see Luke Finley, 251
Macroalgae, 223
$\alpha_2$macroglobulin, 190
Malchow, Robert Paul, see Anthony J. A. Molina, 168
Malgaroli, A., see A. Abenavoli, 184
Manahan, Donal T., see Adam G. Marsh, 100
Marine Biological Laboratory
  Annual Report, v. 199 (1), R1
  General Scientific Meetings, Short Reports, 157
Marine invertebrate reproduction, 1
Marks, Ernest, III, see Christine Brothers, 200
Marsh, Adam G., Patrick K. K. Leong, and Donal T. Manahan, Gene expression and enzyme activities of the sodium pump during sea urchin development: implications for indices of physiological state, 100
Maternal energy investment in eggs and jelly coats surrounding eggs of the echinoid *Arbacia punctulata*, 1
Maternal investment, 1
Mauthner neuron, 180
MBL
  Annual Report, v. 199 (1), R1
  General Scientific Meetings, Short Reports, 157
McClintock, James B., see Minako S. Vickery, 298
Mechanisms of spontaneous miniature activity at CA3-CA1 synapses: evidence for a divergence from a random Poisson process, 184
Mello, J., see S. I. Cromarty, 265
Memory
  blocking, 182
  long-term, 182
  short-term, 182
  consolidation, 182
Memory consolidation in *Hermissenda crassicornis*, 182
MEPSC, 184
Mesopelagic ecology, 6
Microciona, 192, 209
Microsporidian, 208
Microtubule, 205, 207
Microtubule-dependent nuclear positioning and nuclear-dependent septum positioning in the fission yeast, *S. pombe*, 205
Mikhailov, Alexander T., see Mario Torrado, 29
Misamore, M. J., and J. W. Lynn, Role of the cytoskeleton in sperm entry during fertilization in the freshwater bivalve *Dreissena polymorpha*, 144
Modeling the effects of land-use changes on nitrogen biogeochemistry in the Ipswich watershed, Massachusetts, 218
Modular organisms, 21
Modulation of the development of plutei by nitric oxide in the sea urchin *Arbacia punctulata*, 195
Molina, Anthony J. A., Peter J. S. Smith, and Robert Paul Malchow, Hydrogen ion fluxes from isolated retinal horizontal cells, modulation by glutamate, 168
Mollusc, 59, 194, 241
Molt cycle, 265
Molt-related and size-dependent differences in the escape response and post-threat behavior of the American lobster, *Homarus americanus*, 265
Monkfish, 227
Morphogenesis, 287
Morphogenesis during asexual reproduction in *Pygospio elegans* Claparede (Annelida, Polychaeta), 41
Morphology, 251
Morrison, Hilary G., see Robert M. Gould, 215
Mosaic, 231
Motoneuron, 175
mRNA transport, 215
Muscatine, Leonard, see Garen Baghdasarian, 278
Myelination, 215
Myosin, 202, 203

N

Nervous ganglion, 29
Newman, David, see Roger MacKenzie, 209
Nitrate, 221
Nitric oxide, 195
Nitrogen, 223
  processing, 218
Novales Flamarique, Inigo, Kristiina Ovaska, and Theodore M. Davis, UV-B-induced damage to the skin and ocular system of amphibians, 187
Nuclear positioning, 205
Nudibranch, 241

O

Odor recognition, 162
Odor-induced oscillatory activity in *Drosophila* CNS, 170
Olfaction, 170
Olfactory bulb, input to, 162
Oocyte, 202
Opisthobranch, 241
Optic nerve, 176
Optic nerve responses of *Limulus* in its natural habitat at night, 176
Optimization of homogenization conditions used to isolate mRNAs in processes of myelinating oligodendrocytes, 215
Organotin, 316
Oscillation, 170
Ovaska, Kristiina, see Inigo Novales Flamarique, 187
Overgrowth competition, 85
Overgrowth competition between clades: implications for interpretation of the fossil record and overgrowth indices, 85
Oxygen
  consumption, 197
  microsensor, 197

P

Pablich, Wendy J., see Elizabeth J. Westgate
PAH clearance, 14

Pancreatic HIT cell, 197
Particle selection, 116
Particle transport in the zebra mussel, *Dreissena polymorpha* (Pallas), 116
Passive tracer, 221
PCNA, 199
PEG clearance, 14
PERRING, ANNE, MICHAEL WILLIAMS, CHARLES HOPKINSON, JR., EDWARD RASTETTER, AND JOSEPH VALLINO, Solute dynamics in storm flow of the Ipswich River Basin: effects of land use, 219
PETERSON, PAT, see Stéphane Hourdez, 95
pH, 200
Pheromone, 50
Phycoerythrin, 223
Pigment, 223
Pigment cell, 195
Planula, 68
Plume, 221
Polychaete, 41, 50
Polyplacophora, 59
Pomacea canaliculata, 316
Population, 227
Population genetic structure of the goosefish, *Lophius americanus*, 227
Preferential expulsion of dividing algal cells as a mechanism for regulating algal-cnidarian symbiosis, 278
Protease inhibitor, 190
Protein synthesis, 215
Proteoglycans, 192, 209

Q

QPX, 199, 200
Quanta, spontaneous release, 184

R

RAPD, 227
RASTETTER, EDWARD, see Ryan Kirkby, 218; Anne Perring, 219
Regeneration, 41
Relationship of dorsoventral eyeshine distributions to habitat depth and animal size in mesopelagic decapods, 6
Renal clearance, 14
Reproduction, 50
Retina, 165, 168
Revised description of the fine structure of *in situ* "Zooxanthellae" genus *Symbiodinium*, 76
RINKEVICH, B., A critical approach to the definition of Darwinian units of selection, 231
RIPPS, HARRIS, see Thomas H. White, 165
The role of microtubules during blastodisc formation of the squid *Loligo pealei*, 207
Role of the cytoskeleton in sperm entry during fertilization in the freshwater bivalve *Dreissena polymorpha*, 144
ROSENTHAL, JOSHUA J. C., AND FRANCISCO BEZANILLA, Seasonal variation in conduction velocity of action potentials in squid giant axon, 135
ROY, RENE, see Roger MacKenzie, 209

S

Salinity, 200
Salt marsh, 225
SANDBERG, LESLIE, PHILLIP STAFFORD, AND GEORGE M. LANGFORD, Effects of myosin-II antibody on actin-dependent vesicle transport in extracts of clam oocytes, 202
SARKER, MOHAN, see William J. Kuhns, 192
Scaling, 21
Sea star larval cloning, 298
Sea urchin, 195, 287
  development, 100
Seasonal variation in conduction velocity of action potentials in squid giant axon, 135
Segmentation, 41
Self-referencing, 197
Septic, 221
Septum positioning, 205
Serotonin, 305
Sex steroid hormone, 316
Sexual differences, 175
SHELTON, P. M. J., see M. L. Johnson, 6
SILVERMAN, H., see T. H. Dietz, 14
SIMPSON, TRACY, see William J. Kuhns, 192
Size-dependent behavior, 265
Skate, 168
SMITH, PETER J. S., see Anthony J. A. Molina, 168; Sung-Kwong Jung, 197
SMITH, SPENCE, see Matthew A. Krutky, 178
SMOLOWITZ, ROXANNA, see Rhea Hanselmann, 199; Christine Brothers, 200
SO_4 clearance, 14
Sodium
  channel, 164
  pump, 100
Solute dynamics, 219
Solute dynamics in storm flow of the Ipswich River Basin: effects of land use, 219
The spatial representation of odors by olfactory receptor neuron input to the olfactory bulb is concentration invariant, 162
Spawning, 50
Species diversity, 126
Sponge, 192, 209
Sporoplasm, 208
Squid, 135, 164, 207
SRINIVAS, MIDUTURU, see Thomas H. White, 165
STAFFORD, PHILLIP, JEREMIAN BROWN, AND GEORGE M. LANGFORD, Interaction of actin- and microtubule-based motors in squid axoplasm probed with antibodies to myosin V and kinesis, 203
STAFFORD, PHILLIP, see Leslie Sandberg, 202
Startle responses of fish without Mauthner neurons: escape behavior of the lumpfish *(Cyclopterus lumpus)*, 180
Statocyst, 251
Stem cell, 231
STIEVE, ERICA, see Michelle Denault, 223
The structure and growth of the statocyst in the Australian crayfish *Cherax destructor*, 251
Sulfate transport, 14
Suppression subtractive hybridization, 215
Surface motor proteins, 192
Symbiodinium, 76, 108, 126
Symbiosis, 76, 126, 278
Symbiotic dinoflagellate, 278
Synapse, 184
Synchrony, 170

T

Tail flip, 265
TAKATA, HIROMI, see Tetsuya Kominami, 287
TAKEDA, NAOKUNI, Development of a penis from the vestigial penis in the female apple snail, *Pomacea canaliculata*, 316
Temperature, 200, 257
  acclimation, 135
Thermosensitivity, 257
Thermosensitivity of the lobster, *Homarus americanus*, as determined by cardiac assay, 257
THOMAS, FLORENCE I. M., see Toby F. Bolton, 1
TORRADO, MARIO, AND ALEXANDER T. MIKHAILOV, Frog Lim-1-like protein is expressed predominantly in the nervous tissue, gonads, and early embryos of the bivalve mollusc *Mytilus galloprovincialis*, 29
Torus semicircularis, 173
TRAN, P. T., V. DOYE, F. CHANG, AND S. INOUÉ, Microtubule-dependent nuclear positioning and nuclear-dependent septum positioning in the fission yeast, *S. pombe*, 205
Transitivity index, 85
TRENCH, R. K., see R. C. LaJeunesse, 126
Tridacnidae, 108

U

UDOETOK, A. S., see T. H. Dietz, 14
Ultrastructure, 76
Unionid, 14
Unit of selection, 231
UV-B radiation, 187
UV-B-induced damage to the skin and ocular system of amphibians, 187

V

VALIELA, IVAN, see Elizabeth J. Westgate, 221; Michelle Denault, 223
VALLINO, JOSEPH, see Ryan Kirkby, 218; Anne Perring, 219
Veliger, 241, 305
Vesicle transport, 202, 203
Vestigial penis, 316
VICKERY, MINAKO S., AND JAMES B. MCCLINTOCK, Effects of food concentration and availability on the incidence of cloning in planktotrophic larvae of the sea star *Pisaster ochraceus*, 298
Viral envelope, 209
Vision, 6, 171, 176, 178
Vocal behavior, 175
VOLLMER, STEVEN V., AND PETER J. EDMUNDS, Allometric scaling in small colonies of the scleractinian coral *Siderastrea siderea* (Ellis and Solander), 21
Voltage gating properties of channels formed by a skate retinal connexin, 165
VORONEZHSKAYA, ELENA E., see Amanda J. G. Dickinson, 305

W

WACHOWIAK, MATT, MICHAL ZOCHOWSKI, LAWRENCE B. COHEN, AND CHUN X. FALK, The spatial representation of odors by olfactory receptor neuron input to the olfactory bulb is concentration invariant, 162
WAKEFIELD, TIMOTHY S., MARK A. FARMER, AND STEPHEN C. KEMPF, Revised description of the fine structure of *in situ* "Zooxanthellae" genus *Symbiodinium*, 76
WANG, JIN W., Odor-induced oscillatory activity in *Drosophila* CNS, 170
WARD, J. EVAN, see Shirley M. Baker, 116
Wastewater, 221
Watershed modeling, 218
WATSON, G. J., F. M. LANGFORD, S. M. GUADRON, AND M. G. BENTLEY, Factors influencing spawning and pairing in the scale worm *Harmothoe imbricata*, 50
WATSON, WINSOR H., III, see Steven H. Jury, 257
WEBER, ROY E., see Stéphane Hourdez, 95
WEIDNER, EARL, Cytoplasmic proteins on the surface of discharged microsporidian sporoplasms, 208
WESTGATE, ELIZABETH J., DEVIN D. KROEGER, WENDY J. PALICH, AND IVAN VALIELA, Fate of anthropogenic nitrogen in a nearshore Cape Cod aquifer, 221
WHITE, THOMAS H., HARRIS RIPPS, MIDUTURU SRINIVAS, AND ROBERTO BRUZZONE, Voltage gating properties of channels formed by a skate retinal connexin, 165
WILLIAMS, MICHAEL, see Anne Perring, 219

Y

YAMAGUCHI, AYAKO, LEONARD K. KACZMAREK, AND DARCY B. KELLEY, Intrinsic membrane properties of laryngeal motoneurons that control sexually differentiated vocal behavior in African clawed frogs, *Xenopus leavis*, 175

Z

Zebra mussel, 116, 144
ZOCHOWSKI, MICHAL, see Matt Wachowiak, 162
Zooxanthella, 68, 76, 108, 126, 278